APPENDIX A

PROJECT DESCRIPTION

- *CEQR Technical Manual Updates Sensitivity Study Technical Memorandum*

Philip Habib & Associates

Engineers and Planners • 102 Madison Avenue • New York, NY 10016 • 212 929 5656 • 212 929 5605 (fax)

TECHNICAL MEMORANDUM

TO:	**NYCDCP**
FROM:	**Philip Habib & Associates**
DATE:	**March 23, 2022**
PROJECT:	**Halletts North (PHA No. 18-115)**
RE:	**Halletts North – CEQR Technical Manual Updates**

The Halletts North project team has reviewed the recently released 2021 *CEQR Technical Manual* and is submitting this memo to summarize how the updated guidance would potentially affect the analyses currently under review.

The announcement of the 2021 *CEQR Technical Manual* update states: "The updated *CEQR Technical Manual* (December 2021 Edition) should be used as guidance for any environmental review commenced on or after December 30, 2021. In the case of impact analyses commenced prior to the release date that are not considered complete as of such date—through the issuance of a Negative Declaration, a Conditional Negative Declaration, or a Final Environmental Impact Statement—the lead agency should consider whether supplementation of the impact analyses to reflect a methodology of the updated *CEQR Technical Manual* should be conducted, taking into account as necessary the scheduled timing of completion of environmental review under the applicable approval process." As outlined below, the updated *CEQR Technical Manual* guidance would either not alter the analysis findings and mitigation, or would not alter the conclusions currently presented in the DEIS. As needed, the DEIS would include language explaining how the analysis follows prior *CEQR Technical Manual* guidelines, e.g.:

> *The analyses presented in the Draft EIS were generally conducted in accordance with the guidance outlined in the 2020* New York City Environmental Quality Review *(CEQR)* Technical Manual*. In December 2021, shortly prior to the completion of the Draft EIS, a substantive update to the 2020* CEQR Technical Manual *was released. By its terms, the 2021* CEQR Technical Manual *is to be used as guidance for "any environmental review commenced on or after the date" of its release. With respect to impact reviews commenced prior to such date that have not been brought to completion with the issuance of a negative declaration, conditional negative declaration, or Final EIS, the lead agency is to consider whether it would be appropriate to supplement the impact analyses previously prepared to reflect the methodology set forth in the 2020 update based on whether the 2021 CEQR methodologies could result in potentially greater project-related impacts. The environmental review for the Proposed Actions commenced prior to the issuance of the 2021* CEQR Technical Manual*, but had not yet been completed, and the guidance of the 2021* CEQR Technical Manual *is not expected to significantly change the technical analyses such that there would be new or greater impacts.*

It should be noted that the summaries below address only technical areas where the 2021 *CEQR Technical Manual* updates have a substantive effect on the analysis; other updates in the guidance are generally textual, e.g., terminology, and/or are not relevant to the Halletts North EIS.

COMMUNITY FACILITIES (SCHOOLS)

The updated guidelines have changed the impact threshold for elementary and intermediate schools, and the impact threshold for high schools has been more clearly defined. Under the updated guidelines, an impact on elementary or intermediate schools occurs when the With-Action condition school utilization rate exceeds 100 percent and the project adds 100 students past the 100 percent utilization mark; and an impact on high schools occurs when the With-Action condition school utilization rate exceeds 100 percent and increases utilization by 5 percent or more. The elementary schools analysis finds that the With-Action condition utilization rate would be approximately 141 percent and the project would introduce approximately 181 elementary school students, and thus would exceed the impact threshold under the new guidance. Therefore, the updated guidance would alter the finding of the Proposed Actions and result in a significant adverse impact on elementary schools. As such, the DEIS will need to be updated to reflect the new impact criteria for elementary schools presented in the 2021 *CEQR Technical Manual* guidelines.

For intermediate and high schools, the Proposed Actions would not exceed the impact threshold under either the old or new guidance, and therefore, would not alter the findings that the Proposed Actions would not have a significant adverse impact on intermediate and high schools.

OPEN SPACE

The updated guidelines have changed the indirect effects impact thresholds. However, the analysis finds that the Proposed Actions would result in a decrease in the active open space ratio of approximately 13 percent, which exceeds the impact threshold under both the old and new guidance. Therefore, the new guidance would not alter the finding that the Proposed Actions have a significant adverse active open space impact.

SHADOWS

The updated guidelines state that tree canopies, shrubs, and perennials generally require four to six hours of sunlight—same as the old guidance—but that grass lawns, planted annuals, and food-producing plants typically require six to eight hours. The shadows analysis finds that the Proposed Actions would not exceed the impact threshold on any of the identified sunlight-sensitive resource (i.e., White Ford Field, the Greenstreet along Astoria Park South, and the East River) within the shadow study area under either the old or new guidance, as each sunlight-sensitive vegetation resource would receive a minimum of six hours of sunlight during the growing season (i.e., March through October). Therefore, the updated guidance would not alter the finding that the Proposed Actions would not have a significant adverse impact on grass lawns, planted annuals, and food-producing plants that typically require six to eight hours.

TRANSPORTATION

The preliminary travel demand forecast prepared based on guidance from the 2021 *CEQR Technical Manual* results in a decrease in the number of project-generated vehicle, bus, subway, and ferry trips during the critical AM and PM commuter hours, as compared to the forecast based on the 2020 *CEQR Technical Manual*—see the comparison on Tables 1a and 2a attached to this memo. However, during the weekday midday and Saturday midday, the preliminary forecast would result in an increase of five and 14 bus trips; 51 and seven subway trips; and four and zero ferry trips, respectively, as compared to the forecast based on the 2020 *CEQR Technical Manual.* In addition, the preliminary forecast also results in 11 and 35 more vehicle trips during the weekday midday and Saturday midday peak hours, respectively,

than the previous forecast. It is worth noting that although there is an increase of vehicle trips during these peak hours, the highest number of vehicle trips (368) forecasted using the 2021 *CEQR Technical Manual* would be lower than the maximum number of vehicles trips (375) forecasted using the 2020 *CEQR Technical Manual* (see attached Tables 1a and 2a). Lastly, as shown in the attached tables, the preliminary forecast based the 2021 *CEQR Technical Manual* results in an increase of 11, 27, and 269 pedestrian trips (bus, subway, and walk/other trips combined) during the AM, PM, and Saturday midday peak hours, respectively, as compared to the forecast based on the 2020 *CEQR Technical Manual.*

The preliminary Level 2 trip assignments were also prepared based on guidance from the 2021 *CEQR Technical Manual* for the vehicular trips, subway trips, bus trips, pedestrian trips. Refer to Figures 1a and 1b for the assignments of incremental vehicular trips based on the 2020 *CEQR Technical Manual* and 2021 *CEQR Technical Manual*, respectively, during the AM, midday, PM, and Saturday peak hours. Based on the 2021 assignments, the same 26 intersections would exceed the 50-vehicle CEQR threshold during the same or additional peak hours as compared to the Level 2 assessment under 2020 CEQR guidance. It should be noted that where additional periods were triggered, the intersection(s) was previously included for analysis under the 2020 CEQR guidance due to another peak hour. As such, under the 2021 CEQR guidance, no additional intersections would require detailed analysis compared to the analyzed intersections under 2020 CEQR guidance. However, the Level 2 assignments will be further refined based on review and coordination with NYCDOT.

Figure 1c illustrates the comparison of incremental vehicle trip assignment between the *2020 CEQR Technical Manual* and *2021 CEQR Technical Manual* guidance. As shown in Figure 1c, during most peak periods, the net incremental vehicle trips is either negative or negligible with exception to the Saturday peak hour, which would experience a net increase of vehicle trips approaching the Project Site under the *2021 CEQR Technical Manual*. However, it is important to note that existing base volumes during the Saturday midday peak hour are lower than that of the critical AM and PM peak hours. For instance, as a proportion, during the Saturday midday peak hour, the traffic network's (analyzed intersections) existing total volume is about 80% and 83% of that of the AM and PM peak hours existing total volumes, respectively

Table 3 presents the assignments of incremental subway trips to each subway station during the commuter peak periods based on the *2020 CEQR Technical Manual* and *2021 CEQR Technical Manual.* Based on the 2021 assignments, the same elements (including three street stairs, two Manhattan-bound platform stairs, and two Queens-bound platforms stairs) would exceed the 200-person CEQR threshold at the 30th Avenue Station during the peak weekday AM and PM commuter periods. As such, under the 2021 CEQR guidance, no additional subway elements at the 30th Avenue station would require detailed analysis compared to the analyzed intersection under 2020 CEQR guidance. Table 4 presents the assignments of incremental bus trips (including subway-bus trips) to each bus route during the commuter peak periods based on the *2020 CEQR Technical Manual* and *2021 CEQR Technical Manual*. Based on the 2021 assignments, the same bus routes would exceed the CEQR threshold during the peak weekday AM and PM commuter periods as compared to the Level 2 assessment under 2020 CEQR guidance. As such, under the 2021 CEQR guidance, no additional bus routes would require detailed analysis compared to the analyzed intersection under 2020 CEQR guidance..

Refer to Figure 2a and 2b for the assignments of incremental pedestrian trips based on the *2020 CEQR Technical Manual* and *2021 CEQR Technical Manual*, respectively, during the AM, midday, PM, and

Saturday peak hours. Based on the 2021 assignments, the same 19 pedestrian elements (including eleven sidewalks, five corner areas, and three crosswalks) would exceed the 200-person CEQR threshold during the same or an additional peak hour as compared to the Level 2 assessment under 2020 CEQR guidance. It should be noted that where additional periods were triggered, the element(s) was previously included for analysis under 2020 CEQR guidance in another peak hour. As such, under the 2021 CEQR guidance, no additional pedestrian elements would require detailed analysis compared to the analyzed intersection under the 2020 CEQR guidance during the Saturday peak hour. However, the Level 2 assignments will be further refined based on review and coordination with NYCDOT.

Figure 2c illustrates the comparison of incremental pedestrian trip assignment between the *2020 CEQR Technical Manual* and *2021 CEQR Technical Manual* guidance. As shown in Figure 2c, during most peak periods, the net incremental pedestrian trips is either negative or negligible with exception to the Saturday peak hour, which would experience a net increase of pedestrian trips approaching the Project Site under the *2021 CEQR Technical Manual*. However, it is important to note that existing base volumes during the Saturday midday peak hour are lower than that of the critical AM and PM peak hours. For instance, as a proportion, during the Saturday midday peak hour, the pedestrian network's (analyzed elements) existing total volume is about 85% and 82% of that of the AM and PM peak hours' existing total volumes, respectively.

With the implementation of the new guidelines in the 2021 *CEQR Technical Manual*, as compared to the 2020 *CEQR Technical Manual*:

- The proposed project would generate fewer subway trips in the analyzed AM and PM commuter peak hours, resulting in a reduction to the width increment threshold (WIT) at the analyzed street and platform stairs of the 30th Avenue (N/W) station during the AM and PM peak hours.
- The proposed project would also generate fewer bus trips (including trips to/from the subway) in the AM and PM commuter peak hours, which would subsequently increase the available capacity at the maximum load points of the Q18 and Q103 bus routes.
- The proposed project would generate fewer vehicle trips in the critical weekday AM and PM peak hours but more vehicle trips in the weekday midday and Saturday peak hours. This would result in:
    i. A reduction of the number of project-generated vehicle trips assigned through analyzed intersections and a subsequent reduction in the magnitude of traffic impacts during the critical AM and PM peak hours.
    ii. An increase of the number of project-generated vehicle trips assigned through intersections during the midday and Saturday peak hours, but would not exceed the 50-vehicle CEQR threshold at any additional intersections in the study area. While the increase would likely worsen the magnitude of the traffic impacts identified under the 2020 *CEQR Technical Manual* guidance, the updated *CEQR Technical Manual* guidance would not meaningfully alter the traffic analysis findings and mitigation presented in the DEIS. The traffic analyses in this DEIS will be updated to be consistent with the updated 2021 *CEQR Technical Manual* between the Draft and Final EIS. Further, although there would be an increase in vehicle trips during the midday and Saturday midday peak hours (and a decrease in vehicle trips during the critical AM and PM peak hours), the existing base volumes during the weekday midday and Saturday midday peak hours are lower than that of the critical AM and PM peak hours. Additionally, it should be noted that the

delay thresholds for traffic impacts based on the 2021 *CEQR Technical Manual* are less conservative than the 2020 *CEQR Technical Manual*, further reducing the likelihood of new traffic impacts, especially during the critical AM and PM peak hours.

- The proposed project would generate fewer overall pedestrian trips (bus, subway, and walk/other trips combined) in the weekday midday but more pedestrian trips in all other peak hours. This would result in:
    i. A reduction of the number of project-generated pedestrian trips assigned through analyzed elements and a subsequent increase in the average pedestrian space along those analyzed elements during the weekday midday peak hour.
    ii. An increase of the number of project-generated pedestrian trips assigned through pedestrian elements but would not exceed the 200-pedestrian CEQR threshold at any pedestrian element in the study area during the AM, PM and Saturday peak hours. While the increase would likely increase the magnitude of impacts at pedestrian elements identified under the 2020 *CEQR Technical Manual* guidance (particularly during the Saturday midday peak hour), the updated *CEQR Technical Manual* guidance would not alter the conclusions relating to the pedestrian analysis presented in the DEIS. The pedestrian analyses in this DEIS will be updated to be consistent with the updated 2021 *CEQR Technical Manual* between the Draft and Final EIS.

The analysis under the previous guidance is generally more conservative, which generally presents a greater potential for significant adverse impacts. Therefore, the updated *CEQR Technical Manual* guidance would not alter the conclusions relating to the transportation analysis presented in the DEIS. The transportation analyses in this DEIS will be updated to be consistent with the updated 2021 *CEQR Technical Manual* between the Draft and Final EIS.

AIR QUALITY

The updated guidelines have not changed the air quality criteria and scope. However, the traffic analysis has been updated based on the updated guidelines. The air quality mobile screening analysis finds that the updated traffic analysis would not change the results of air quality mobile source analysis. Therefore, the new guidance would not alter the finding that the Proposed Actions would not have a significant adverse air quality impact.

NOISE

The mobile source analysis finds that the noise from increased traffic volumes generated by the Proposed Actions would cause significant adverse noise impacts as the relative increase in noise levels would be above the applicable CEQR impact threshold (3.0 dBA). The new guidance does not include any significant changes to the methodology to the mobile source noise analysis or the impact thresholds that would affect this finding. As noted above, under new traffic analysis guidance, the Proposed Project would generate fewer vehicle trips during critical AM and PM peak periods resulting in a reduction of the number of project-generated vehicle trips assigned through analyzed intersections and roadways within the vicinity of the Project Area. While this reduction would effectively reduce the magnitude of the significant

adverse noise impact, the CEQR impact threshold for noise (3.0 dBA) would still likely be exceeded at the receptors where significant noise impacts were identified under the old guidance. While the Proposed Project would generate slightly more vehicle trips during the midday and Saturday peak periods under the updated traffic analysis guidance, and thus, likely worsen the magnitude of the noise impacts identified under the old guidance, no new receptors are likely to be impacted under the updated 2021 *CEQR Technical Manual* guidance.

Table 1a: Travel Demand Forcast Summary (CEQR 2020 TM)

Peak Hour	Net Vehicle[1]			Person Trips														
				Total Subway			Total Bus			Net Ferry			Net Walk			Total Pedestrian Trips[2]		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	118	243	361	185	611	796	26	66	92	13	41	54	108	173	281	219	532	751
MD	125	134	259	207	209	416	35	36	71	13	13	26	293	295	588	548	553	1101
PM	211	164	375	543	343	886	62	44	106	36	23	59	249	225	474	574	433	1007
SAT	155	178	333	352	430	782	47	55	102	23	28	51	271	262	533	693	775	1468

[1]Includes Auto, Taxi and Truck trips for all peak hours

[2]Includes Walk-Only trips and pedestrians en route to/from nearby bus/ferry stops

Table 2a: Travel Demand Forcast Summary (CEQR 2021 TM)

Peak Hour	Net Vehicle[1]			Person Trips														
				Total Subway			Total Bus			Net Ferry			Net Walk			Total Pedestrian Trips[2]		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	114	242	356	162	592	754	26	64	90	11	39	50	130	183	313	231	531	762
MD	132	138	270	233	234	467	38	38	76	15	15	30	260	243	503	546	530	1,076
PM	185	141	326	444	256	700	58	41	99	30	17	47	320	274	594	596	438	1,034
SAT	185	183	368	402	387	789	59	57	116	26	25	51	408	373	781	895	842	1,737

[1]Includes Auto, Taxi and Truck trips for all peak hours

[2]Includes Walk-Only trips and pedestrians en route to/from nearby bus/ferry stops

Table 1b: Transportation Planning Assumptions (CEQR TM 2020)

Land Use:	**Community Facility***		**Residential**		**Local Retail**		**Warehouse**		**Open Space**	
Size/Units:	22,638 gsf		1,665 DUs		16,887 gsf		-201,362 gsf		41,363 gsf	
Trip Generation:	(1)		(3)		(3)		(7)(8)		(3)	
Weekday	(See note)		8.075		205.0		2.36		44.0	
Saturday	39.0		9.6		240.0		0.2		62.0	
	per 1,000 gsf		per DU		per 1,000 gsf		per 1,000 gsf		per acre	
Temporal Distribution:	(1)		(3)		(3)		(7)		(3)	
AM	11.0%		10.0%		3.0%		10.0%		3.0%	
MD	13.0%		5.0%		19.0%		9.0%		5.0%	
PM	9.0%		11.0%		10.0%		11.0%		6.0%	
SAT	17.0%		8.0%		10.0%		33.0%		6.0%	
	(1)		(4)		(6)		(10)		(11)	
Modal Splits:	All Periods		All Periods		AM/MD/PM	SAT	All Periods		All Periods	
Auto	62.0%		19.8%		11.0%	8.0%	46.9%		5.0%	
Taxi	7.0%		0.7%		0.0%	0.0%	1.5%		5.0%	
Subway/Shuttle	1.0%		59.5%		4.0%	7.0%	28.4%		5.0%	
Bus	6.0%		6.0%		3.0%	4.0%	5.5%		5.0%	
Ferry	0.0%		4.0%		0.0%	0.0%	0.0%		0.0%	
Walk/Bike/Other	24.0%		10.0%		82.0%	81.0%	17.7%		80.0%	
	100.0%		100.0%		100.0%	100.0%	100.0%		100.0%	
	(1)		(5)		(2)		(7)		(11)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out
AM	62.0%	38.0%	24%	76%	50%	50%	77%	23%	50%	50%
MD	47.0%	53.0%	50%	50%	50%	50%	53%	47%	50%	50%
PM	35.0%	65.0%	61%	39%	50%	50%	27%	73%	50%	50%
SAT	49.0%	51.0%	45%	55%	55%	45%	64%	36%	50%	50%
Vehicle Occupancy:	(1)		(4)(2)		(6)		(2)		(11)	
	All Periods		All Periods		All Periods		All Periods		All Periods	
Auto	1.50		1.08		1.40		1.30		2.00	
Taxi	1.50		1.30		1.40		1.30		2.00	
Truck Trip Generation:	(2)		(3)		(3)		(7)(8)(9)		(12)	
Weekday	0.29		0.06		0.35		0.91		0.02	
Saturday	0.29		0.02		0.04		0.08		0.02	
	per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per acre	
Truck Temporal Distribution:	(2)		(3)		(3)		(7)		(12)	
AM	3.0%		12.0%		8.0%		9.9%		6.0%	
MD	11.0%		9.0%		11.0%		8.0%		6.0%	
PM	1.0%		2.0%		2.0%		7.0%		1.0%	
SAT	0.0%		9.0%		11.0%		28.0%		6.0%	
Truck In/Out Split:	In	Out	In	Out	In	Out	In	Out	In	Out
AM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	67.0%	33.0%	50.0%	50.0%
MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	57.0%	43.0%	50.0%	50.0%
PM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	60.0%	40.0%	50.0%	50.0%
SAT	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%

Notes :

(1) Based on NYCDOT medical office trip generation & mode choice data. Weekday est. daily trip = 141.77 + 66.626 x gross SF (in thousands)

(2) Based on data from *East New York Rezoning FEIS* (2016)

(3) Based on 2020 *City Environmental Quality Review (CEQR) Technical Manual*

(4) 2014-2018 ACS Journey-to-Work data for Queens Census Tracts 83, 87 & 91 adjusted for characteristics of the project

(5) Based on NYCDOT citywide residential survey data

(6) Based on NYCDOT Local Retail Mode Choice Surveys

(7) Based on data from *ITE Trip Generation Manual, 10th Edition,* Land Use Code 150 (Warehousing)

(8) Included 1.51 adjustment factor per NYCDOT Trip Generation Survey

(9) Adjusted per the ratio between weekday and Saturday based on information from the *ITE Generation Handbook, 10th Edition*

(10) Based on 2012-2016 AASHTO CTPP Reverse Journey-to-Work data for Queens Census Tracts 83, 87 & 91

(11) Based on data from the *Domino Sugar Rezoning* (2010)

(12) Based on data from the *Hunter's Point South Rezoning and Related Actions FEIS* (2008)

* Assumes medical office use

Table 1c: Travel Demand Forecast (2020 CEQR TM)

Land Use:		Community Facility		Residential		Local Retail*		Warehouse		Open Space		Total	
Size/Units:		22,638	gsf	1,665	DUs	16,887	gsf	-201,362	gsf	41,363	gsf		
Peak Hour Person Trips:													
	AM	182		1,346		78		-48		56		1,614	
	MD	216		674		494		-44		92		1,432	
	PM	150		1,480		260		-54		110		1,946	
	SAT	152		1,280		304		-14		154		1,876	
Person Trips:													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto	70	43	64	202	5	4	-18	-5	1	1	122	245
	Taxi	8	5	2	7	0	0	0	0	1	1	11	13
	Subway	1	1	192	611	1	1	-10	-3	1	1	185	611
	Bus	7	4	19	61	1	1	-2	-1	1	1	26	66
	Ferry	0	0	13	41	0	0	0	0	0	0	13	41
	Walk/Other	26	17	32	102	33	32	-7	-2	24	24	108	173
	Total	112	70	322	1,024	40	38	-37	-11	28	28	465	1,149
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto	63	72	67	67	27	27	-10	-9	2	2	149	159
	Taxi	7	8	2	2	0	0	0	0	2	2	11	12
	Subway	1	1	202	202	10	10	-8	-6	2	2	207	209
	Bus	6	7	20	20	8	8	-1	-1	2	2	35	36
	Ferry	0	0	13	13	0	0	0	0	0	0	13	13
	Walk/Other	24	27	33	33	203	201	-5	-4	38	38	293	295
	Total	101	115	337	337	248	246	-24	-20	46	46	708	724
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto	33	58	178	114	15	15	-7	-19	3	3	222	171
	Taxi	4	7	7	5	0	0	0	-1	3	3	14	14
	Subway	1	1	537	344	6	6	-4	-11	3	3	543	343
	Bus	3	6	54	34	3	3	-1	-2	3	3	62	44
	Ferry	0	0	36	23	0	0	0	0	0	0	36	23
	Walk/Other	13	24	90	58	105	107	-2	-7	43	43	249	225
	Total	54	96	902	578	129	131	-14	-40	55	55	1,126	820
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
SAT	Auto	47	47	114	139	18	15	-6	-2	4	4	177	203
	Taxi	5	5	5	5	0	0	0	0	4	4	14	14
	Subway	1	1	343	420	7	6	-3	-1	4	4	352	430
	Bus	4	5	34	42	5	4	0	0	4	4	47	55
	Ferry	0	0	23	28	0	0	0	0	0	0	23	28
	Walk/Other	18	19	57	70	136	113	-1	-1	61	61	271	262
	Total	75	77	576	704	166	138	-10	-4	77	77	884	992
Vehicle Trips :													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	47	29	59	187	4	3	-14	-4	0	0	96	215
	Taxi	5	3	2	6	0	0	0	0	0	0	7	9
	Taxi Balanced	7	7	8	8	0	0	0	0	0	0	15	15
	Shuttle	0	0	13	13	0	0	0	0	0	0	13	13
	Truck	0	0	6	6	0	0	-12	-6	0	0	-6	0
	Total	54	36	73	201	4	3	-26	-10	0	0	118	243
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	42	48	62	62	19	19	-8	-7	0	0	115	122
	Taxi	5	5	2	2	0	0	0	0	0	0	7	7
	Taxi Balanced	9	9	4	4	0	0	0	0	0	0	13	13
	Shuttle	0	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	5	5	0	0	-8	-6	0	0	-3	-1
	Total	51	57	71	71	19	19	-16	-13	0	0	125	134
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	22	39	165	106	10	10	-6	-14	0	0	191	141
	Taxi	3	5	6	4	0	0	0	-1	0	0	9	8
	Taxi Balanced	7	7	9	9	0	0	0	0	0	0	16	16
	Shuttle	0	0	11	11	0	0	0	0	0	0	11	11
	Truck	0	0	1	1	0	0	-8	-5	0	0	-7	-4
	Total	29	46	175	116	10	10	-14	-19	0	0	211	164
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
SAT	Auto (Total)	31	31	106	128	12	10	-5	-2	0	0	144	167
	Taxi	3	3	4	4	0	0	0	0	0	0	7	7
	Taxi Balanced	5	5	7	7	0	0	0	0	0	0	12	12
	Shuttle	0	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	1	1	0	0	-2	-2	0	0	-1	-1
	Total	36	36	114	136	12	10	-7	-4	0	0	155	178

***assumes 25% linked trip credit**

Astoria West Cove

Table 2b: Transportation Planning Assumptions (2021 CEQR TM)

Land Use:	**Community Facility***	**Residential**	**Local Retail**	**Warehouse**	**Open Space**
Size/Units:	22,638 gsf	1,665 DUs	16,887 gsf	-201,362 gsf	41,363 gsf
Trip Generation:	(3)	(3)	(3)	(7)(8)	(3)
Weekday	(See note)	8.180	329.0	2.36	44.0
Saturday	39.0	9.08	358.0	0.2	62.0
	per 1,000 gsf	per DU	per 1,000 gsf	per 1,000 gsf	per acre
Temporal Distribution:	(3)	(3)	(3)	(7)	(3)
AM	11.0%	9.3%	4.8%	10.0%	3.0%
MD	12.6%	5.6%	8.0%	9.0%	14.0%
PM	8.5%	8.5%	10.9%	11.0%	14.0%
SAT	16.6%	8.4%	11.7%	33.0%	16.0%
	(1)	(4)	(6)	(10)	(11)
Modal Splits:	All Periods	All Periods	AM/MD/PM SAT	All Periods	All Periods
Auto	62.0%	19.8%	11.0% 8.0%	46.9%	5.0%
Taxi	7.0%	0.7%	0.0% 0.0%	1.5%	5.0%
Subway/Shuttle	1.0%	59.5%	4.0% 7.0%	28.4%	5.0%
Bus	6.0%	6.0%	3.0% 4.0%	5.5%	5.0%
Ferry	0.0%	4.0%	0.0% 0.0%	0.0%	0.0%
Walk/Bike/Other	24.0%	10.0%	82.0% 81.0%	17.7%	80.0%
	100.0%	100.0%	100.0% 100.0%	100.0%	100.0%

	(3)		(3)		(3)		(7)		(3)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out
AM	62.0%	38.0%	22%	78%	53%	47%	77%	23%	59%	41%
MD	47.0%	53.0%	50%	50%	50%	50%	53%	47%	55%	45%
PM	35.0%	65.0%	63%	37%	50%	50%	27%	73%	55%	45%
SAT	49.0%	51.0%	51%	49%	50%	50%	64%	36%	55%	45%

Vehicle Occupancy:	(1)	(4)(2)	(6)	(2)	(11)
	All Periods	All Periods	All Periods	All Periods	All Periods
Auto	1.50	1.08	1.40	1.30	2.00
Taxi	1.50	1.30	1.40	1.30	2.00
Truck Trip Generation:	(2)	(3)	(3)	(7)(8)(9)	(12)
Weekday	0.29	0.06	0.35	0.91	0.02
Saturday	0.29	0.02	0.04	0.08	0.02
	per 1,000 sf	per DU	per 1,000 sf	per 1,000 sf	per acre
Truck Temporal Distribution:	(2)	(3)	(3)	(7)	(12)
AM	3.0%	12.0%	8.0%	9.9%	6.0%
MD	11.0%	9.0%	11.0%	8.0%	6.0%
PM	1.0%	2.0%	2.0%	7.0%	1.0%
SAT	0.0%	9.0%	11.0%	28.0%	6.0%

Truck In/Out Split:	In	Out	In	Out	In	Out	In	Out	In	Out
AM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	67.0%	33.0%	50.0%	50.0%
MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	57.0%	43.0%	50.0%	50.0%
PM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	60.0%	40.0%	50.0%	50.0%
SAT	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%

Notes :

(1) Based on NYCDOT medical office trip generation & mode choice data. Weekday est. daily trip = 141.77 + 66.626 x gross SF (in thousands)

(2) Based on data from *East New York Rezoning FEIS* (2016)

(3) Based on 2020 *City Environmental Quality Review (CEQR) Technical Manual*

(4) 2014-2018 ACS Journey-to-Work data for Queens Census Tracts 83, 87 & 91 adjusted for characteristics of the project

(6) Based on NYCDOT Local Retail Mode Choice Surveys

(7) Based on data from *ITE Trip Generation Manual, 10th Edition,* Land Use Code 150 (Warehousing)

(8) Included 1.51 adjustment factor per NYCDOT Trip Generation Survey

(9) Adjusted per the ratio between weekday and Saturday based on information from the *ITE Generation Handbook, 10th Edition*

(10) Based on 2012-2016 AASHTO CTPP Reverse Journey-to-Work data for Queens Census Tracts 83, 87 & 91

(11) Based on data from the *Domino Sugar Rezoning* (2010)

(12) Based on data from the *Hunter's Point South Rezoning and Related Actions FEIS* (2008)

* Assumes medical office use

Table 2c: Travel Demand Forecast (CEQR TM 2021)

Land Use:		Community Facility		Residential		Local Retail*		Warehouse		Open Space		Total	
Size/Units:		22,638	gsf	1,665	DUs	16,887	gsf	-201,362	gsf	41,363	gsf		
Peak Hour Person Trips:													
	AM	182		1,268		133		-48		56		1,591	
	MD	208		764		223		-44		256		1,407	
	PM	142		1,160		303		-54		256		1,807	
	SAT	148		1,272		354		-14		412		2,172	
Person Trips:													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto	70	43	55	196	8	7	-18	-5	2	1	117	242
	Taxi	8	5	2	7	0	0	0	0	2	1	12	13
	Subway	1	1	166	591	3	2	-10	-3	2	1	162	592
	Bus	7	4	17	58	2	2	-2	-1	2	1	26	64
	Ferry	0	0	11	39	0	0	0	0	0	0	11	39
	Walk/Other	26	17	27	99	58	51	-7	-2	26	18	130	183
	Total	112	70	278	990	71	62	-37	-11	34	22	458	1,133
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto	61	68	76	76	12	12	-10	-9	7	6	146	153
	Taxi	7	8	2	2	0	0	0	0	7	6	16	16
	Subway	1	1	228	228	5	5	-8	-6	7	6	233	234
	Bus	6	7	23	23	3	3	-1	-1	7	6	38	38
	Ferry	0	0	15	15	0	0	0	0	0	0	15	15
	Walk/Other	23	26	38	38	92	91	-5	-4	112	92	260	243
	Total	98	110	382	382	112	111	-24	-20	140	116	708	699
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto	31	55	144	85	17	17	-7	-19	7	6	192	144
	Taxi	3	6	6	4	0	0	0	-1	7	6	16	15
	Subway	0	1	435	254	6	6	-4	-11	7	6	444	256
	Bus	3	7	44	25	5	5	-1	-2	7	6	58	41
	Ferry	0	0	30	17	0	0	0	0	0	0	30	17
	Walk/Other	13	23	73	43	124	123	-2	-7	112	92	320	274
	Total	50	92	732	428	152	151	-14	-40	140	116	1,060	747
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
SAT	Auto	46	46	129	124	19	19	-6	-2	11	9	199	196
	Taxi	5	5	5	5	0	0	0	0	11	9	21	19
	Subway	1	1	386	371	7	7	-3	-1	11	9	402	387
	Bus	4	5	38	37	6	6	0	0	11	9	59	57
	Ferry	0	0	26	25	0	0	0	0	0	0	26	25
	Walk/Other	17	18	64	62	145	145	-1	-1	183	149	408	373
	Total	73	75	648	624	177	177	-10	-4	227	185	1,115	1,057
Vehicle Trips :													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	47	29	51	182	6	5	-14	-4	1	1	91	213
	Taxi	5	3	2	6	0	0	0	0	1	1	8	10
	Taxi Balanced	7	7	8	8	0	0	0	0	2	2	17	17
	Shuttle	0	0	12	12	0	0	0	0	0	0	12	12
	Truck	0	0	6	6	0	0	-12	-6	0	0	-6	0
	Total	54	36	65	196	6	5	-26	-10	3	3	114	242
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	41	45	70	70	9	9	-8	-7	4	3	116	120
	Taxi	5	5	2	2	0	0	0	0	4	3	11	10
	Taxi Balanced	9	9	4	4	0	0	0	0	6	6	19	19
	Shuttle	0	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	5	5	0	0	-8	-6	0	0	-3	-1
	Total	50	54	79	79	9	9	-16	-13	10	9	132	138
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	21	37	133	79	12	12	-6	-14	4	3	164	117
	Taxi	2	4	5	3	0	0	0	-1	4	3	11	9
	Taxi Balanced	6	6	7	7	0	0	0	0	6	6	19	19
	Shuttle	0	0	9	9	0	0	0	0	0	0	9	9
	Truck	0	0	1	1	0	0	-8	-5	0	0	-7	-4
	Total	27	43	141	87	12	12	-14	-19	10	9	185	141
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
SAT	Auto (Total)	31	31	119	115	13	13	-5	-2	6	5	164	162
	Taxi	3	3	4	4	0	0	0	0	6	5	13	12
	Taxi Balanced	5	5	7	7	0	0	0	0	10	10	22	22
	Shuttle	0	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	1	1	0	0	-2	-2	0	0	-1	-1
	Total	36	36	127	123	13	13	-7	-4	16	15	185	183

***assumes 50% linked trip credit**

Table 3: Level 2 Assigment of Subway Trips (2020 vs 2021 CTM)

Commuter Peak Hour	Manual Version	Direction	30th Avenue	Astoria Boulevard	21st Street Queensbridge	All Stations
AM	2020 CEQR CTM	In	129	28	28	185
		Out	428	91	92	611
		Total	557	119	120	796
	2021 CEQR CTM	In	113	25	24	162
		Out	414	89	89	592
		Total	527	114	113	754
PM	2020 CEQR CTM	In	380	82	81	543
		Out	240	52	51	343
		Total	620	134	132	886
	2021 CEQR CTM	In	311	66	67	444
		Out	179	39	38	256
		Total	490	105	105	700

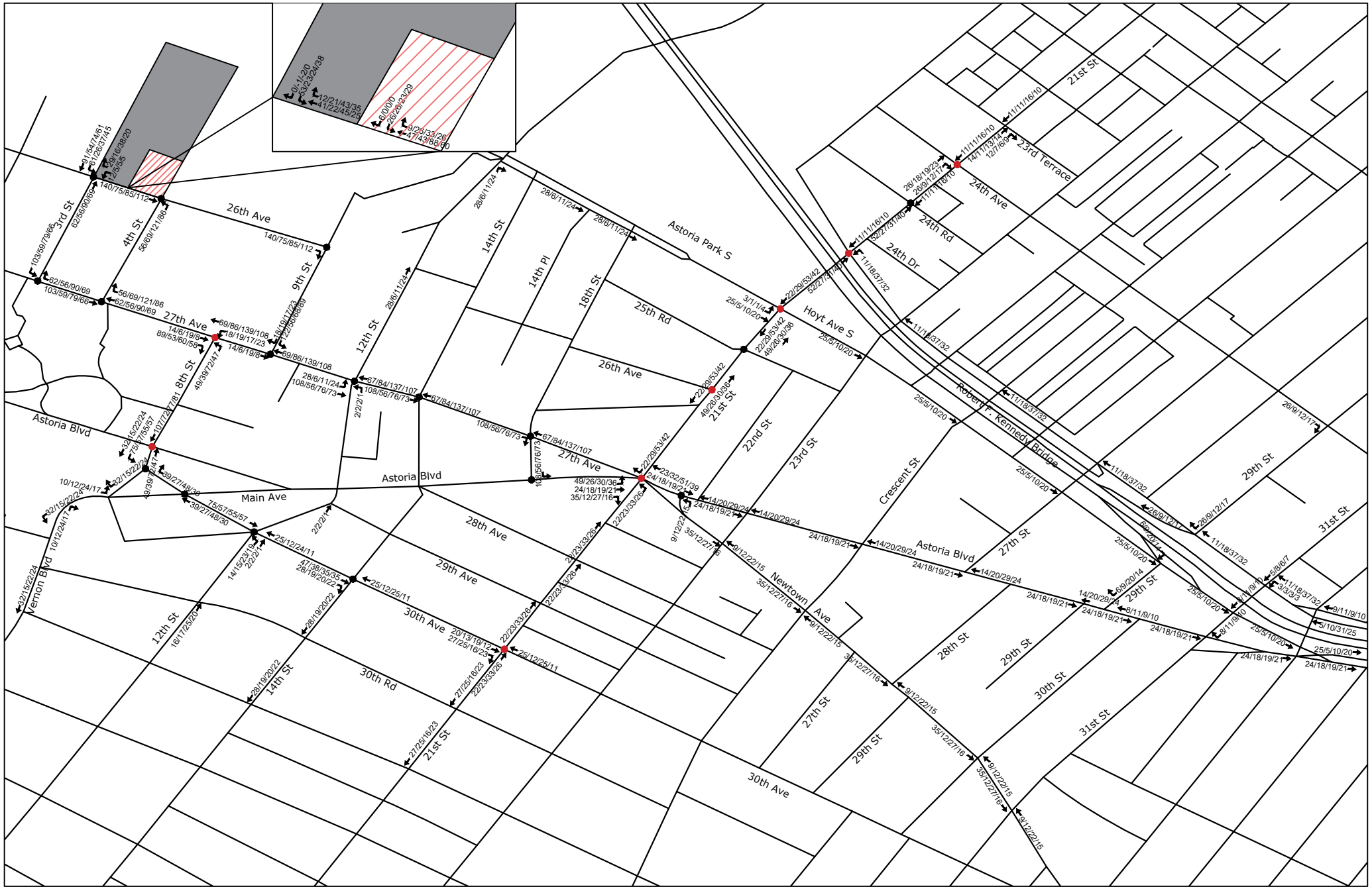
Underlined value denotes station exceeds CEQR 200-trip station thresold

Table 4: Level 2 Assigment of All Bus Trips (2020 vs 2021 CTM)

Line	Direction	AM		PM	
		2020 CEQR TM	2021 CEQR TM	2020 CEQR TM	2021 CEQR TM
Q18	EB	70	67	42	36
	WB	22	22	65	59
Q19	EB	104	102	61	47
	WB	33	30	94	77
Q102	NB	12	11	42	37
	SB	45	45	26	22
Q103	NB	31	27	88	73
	SB	99	96	56	42
Total		416	400	474	393

Underlined value denotes route exceeds CEQR 50-trip bus thresold

Incremental Vehicle Volumes - AM, MD, PM & SAT(2020 CTM)



← 4/1/4/4 - AM/MD/PM/SAT Vehicular Volumes

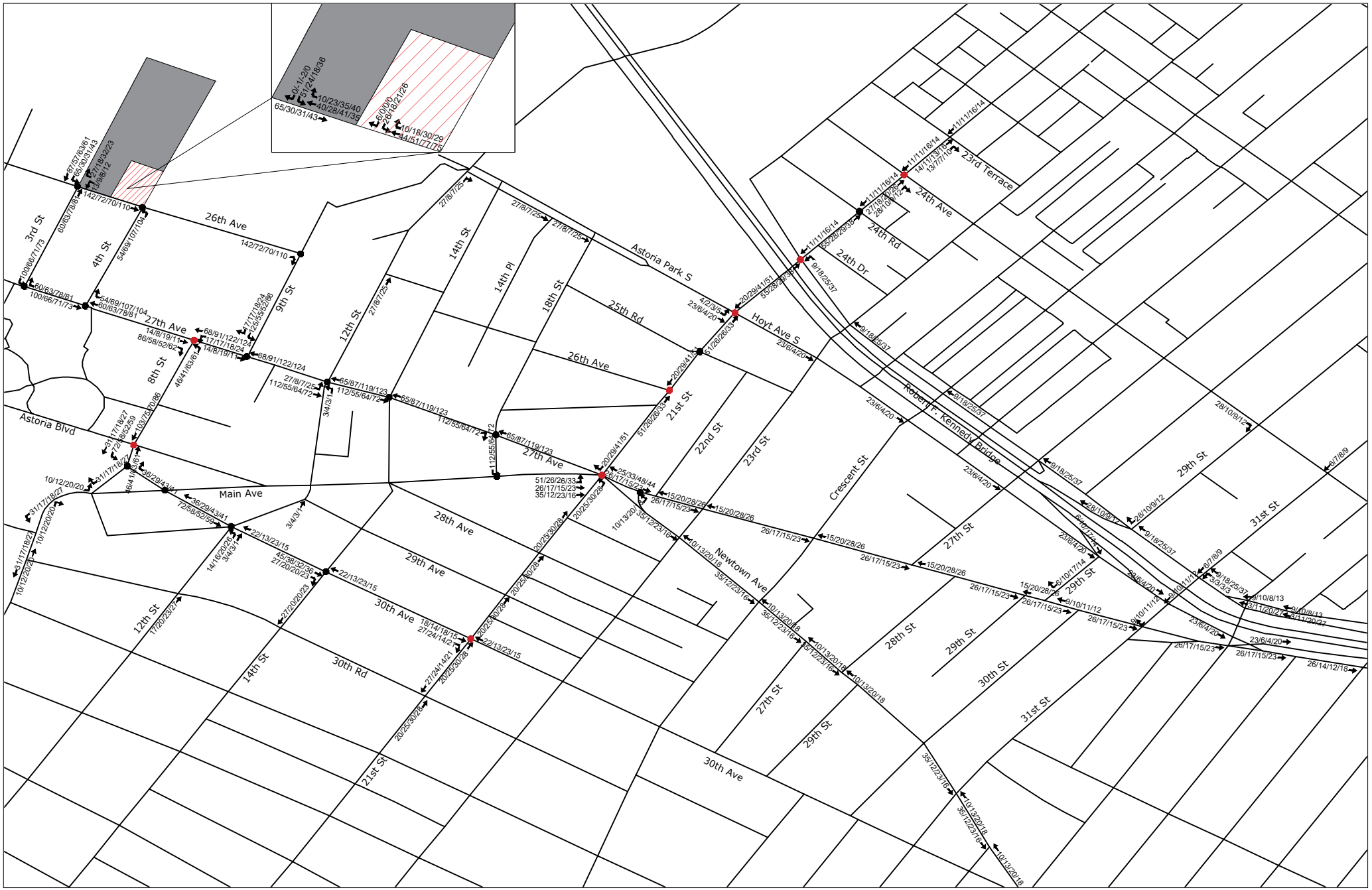
● Existing Signalized Analysis Intersection

● Existing Unsignalized Analysis Intersection

Projected Development Site 1

Projected Development Site 2

Incremental Vehicle Volumes - AM, MD, PM & SAT (2021 CTM)



← 4/1/4/4 - AM/MD/PM/SAT Vehicular Volumes

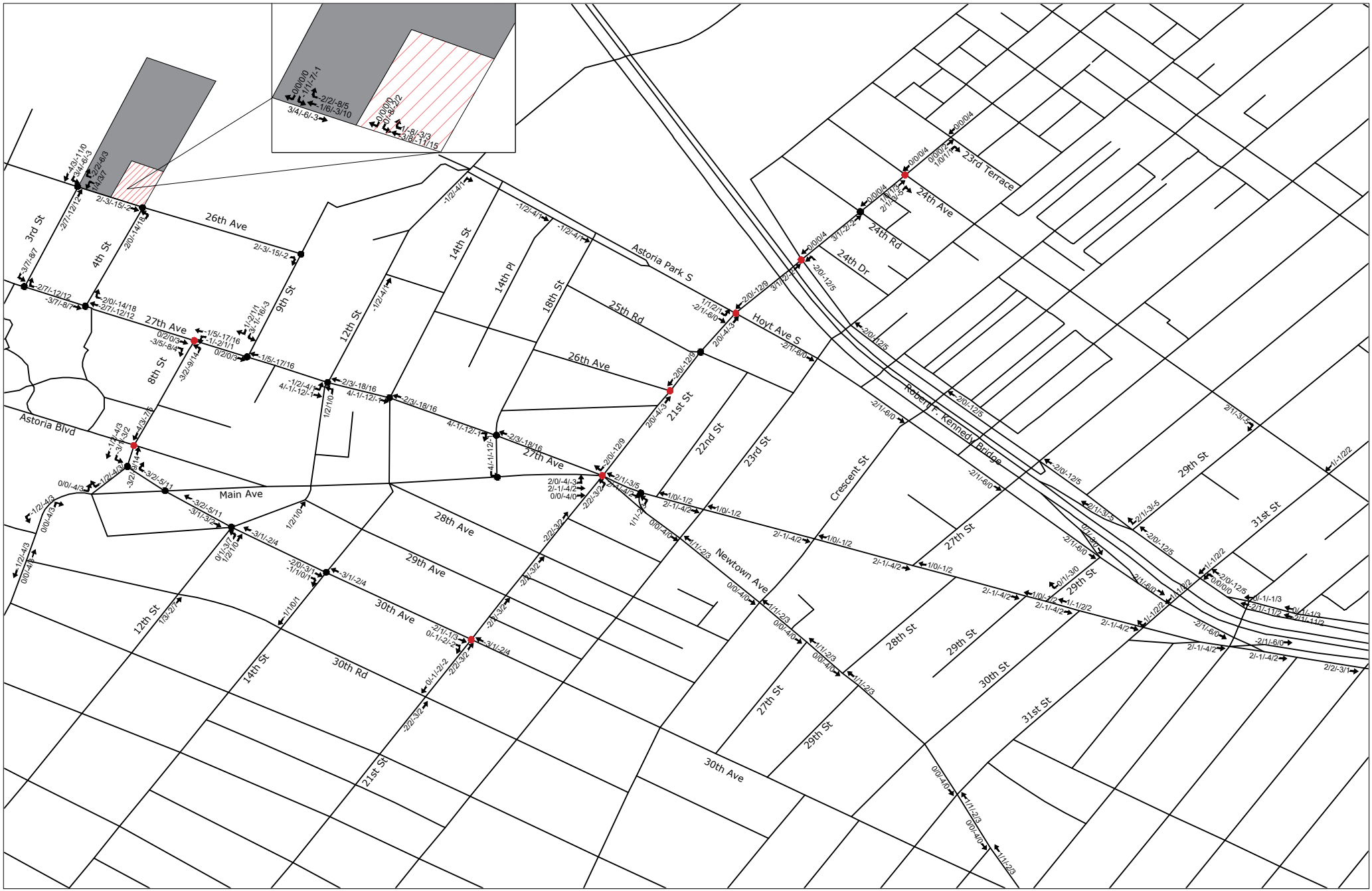
● Signalized Analysis Intersection

● Unsignalized Analysis Intersection

Projected Development Site 1

Projected Development Site 2

Difference in Incremental Vehicle Volumes - AM, MD, PM & SAT (2020 CTM vs 2021 CTM)



← 4/1/4/4 - AM/MD/PM/SAT Vehicular Volumes

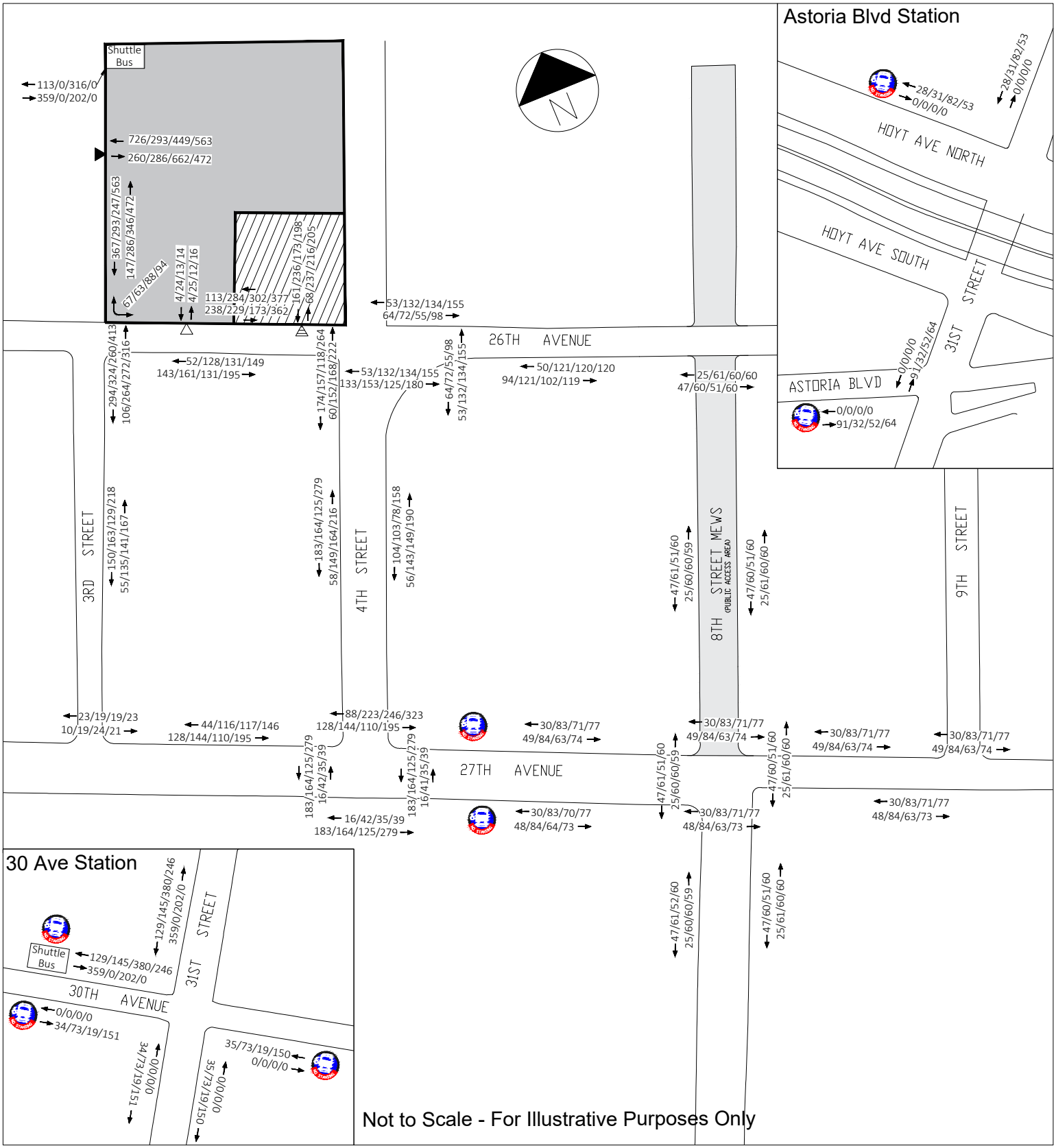
● Signalized Analysis Intersection

● Unsignalized Analysis Intersection

Projected Development Site 1

Projected Development Site 2

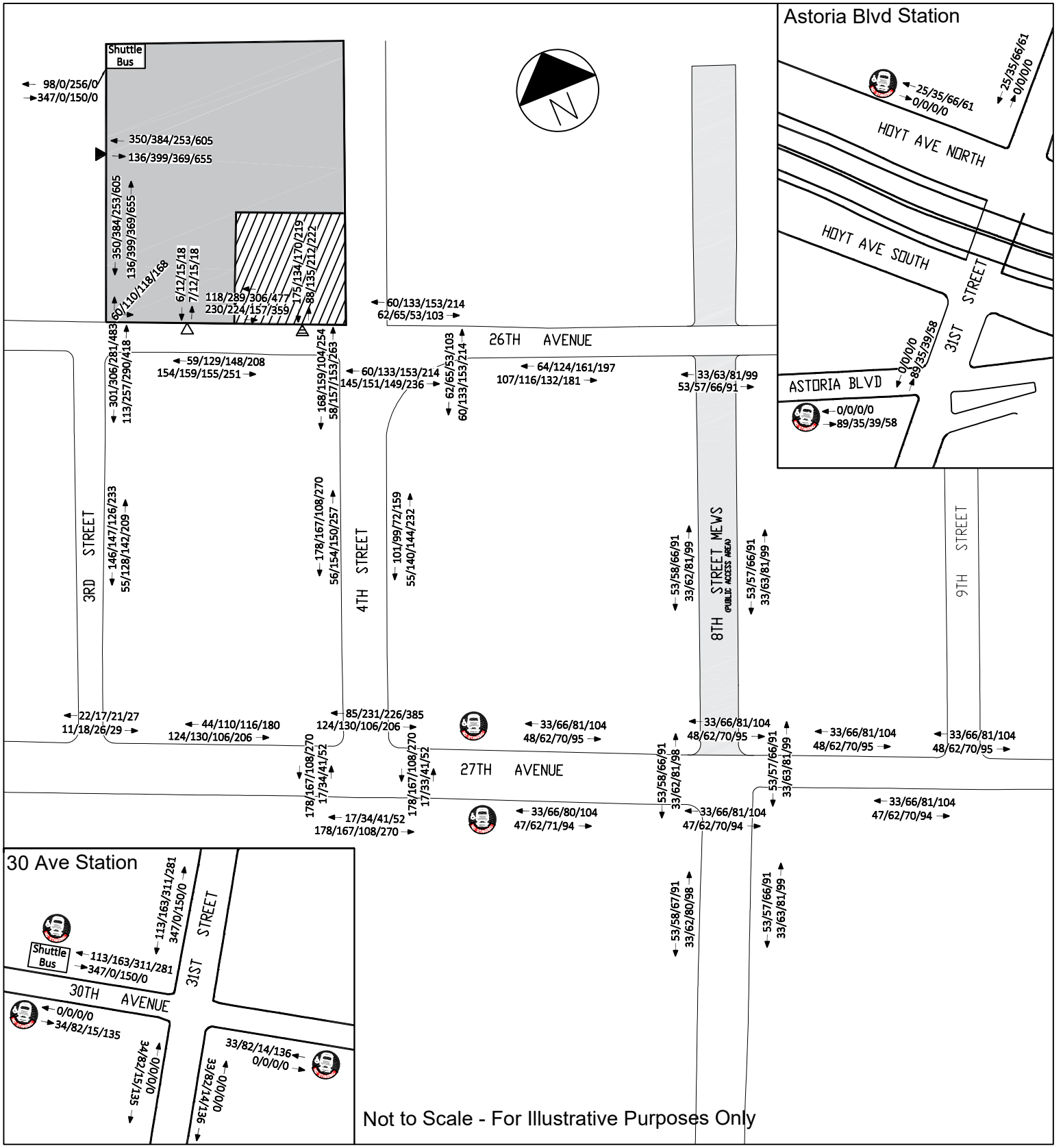
Pedestrian Assignment (2020 CTM)



Legend

- Projected Development Site 1
- Projected Development Site 2
- 4/1/4/4 - AM/MD/PM/SAT Pedestrian Volumes
- MTA Bus Stop
- Site 1 Retail Entrance
- Site 1 Residential Entrance
- Site 2 Entrance

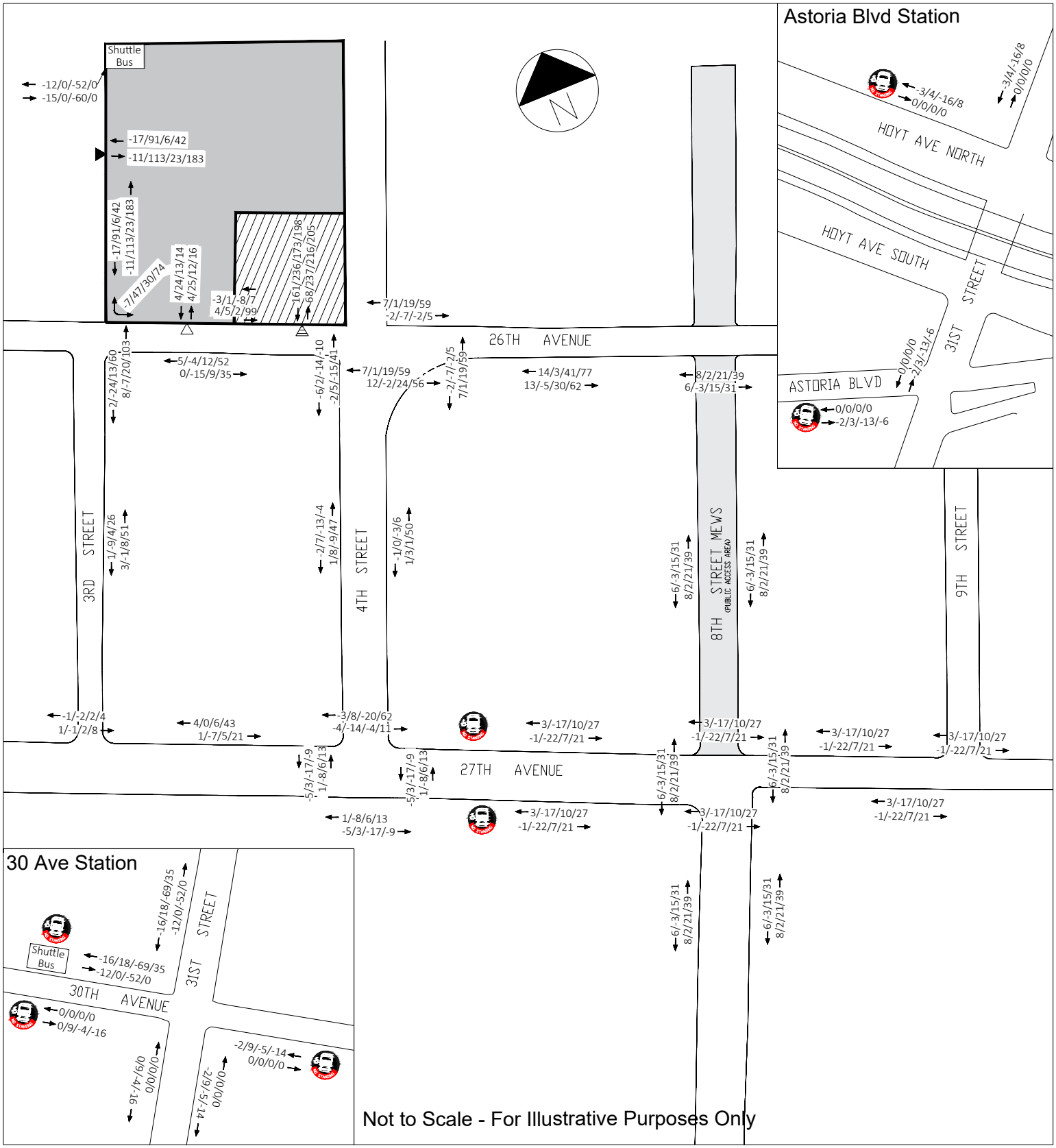
Pedestrian Assignment (2021CTM)



Legend

- Projected Development Site 1
- Projected Development Site 2
- 4/1/4/4 - AM/MD/PM/SAT Pedestrian Volumes
- MTA Bus Stop
- Site 1 Retail Entrance
- Site 1 Residential Entrance
- Site 2 Entrance

Difference in Pedestrian Assignment (2020 CTM vs 2021 CTM)



Legend

- Projected Development Site 1
- Projected Development Site 2
- 4/1/4/4 - AM/MD/PM/SAT Pedestrian Volumes
- MTA Bus Stop
- Site 1 Retail Entrance
- Site 1 Residential Entrance
- Site 2 Entrance